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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,381	11/12/2003	Moris Dovek	HT02-016	6373

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EXAMINER	
KAYRISH, MATTHEW	
ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/706,381	DOVEK ET AL.	
	Examiner	Art Unit	
	Matthew G. Kayrish	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 November 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/29/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's election with traverse of Species 1 in the reply filed on 1/17/2006 is acknowledged. The traversal is on the grounds that the costs are increased to have all four species separately examined. This is not found persuasive because each species is patentably distinct.

2. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Santini (2002/0191350).

5. Regarding claim 4, Santini disclose:

A magnetic write head, comprising:

On a substrate, a first layer of high magnetic permeability material that serves as a primary lower magnetic pole (figure 17, item 92);

A non-magnetic layer that abuts, and extends away from, said primary pole on a first side (figure 17, item 212);

A second layer of high magnetic permeability material that serves as a secondary lower pole and covers said primary pole extending over said non-magnetic layer on said first side as a ledge having a width (figure 2, item 202);

A field coil over, and insulated from, said lower poles (figure 17, item 220);

An upper magnetic pole that overlies said field coil (figure 6, item 94), contacts said lower pole at a second side that opposes said first side (figure 6, item 96), and that is separated from said ledge by a layer of non-magnetic material that is a write gap (figure 6, item 102), said upper pole having, at the write gap, a width equal to said ledge width, whereby it defines a track width (page 1, paragraph 6); and

Said ledge extending away from said primary lower pole by an amount (figure 19, item 502 extends away).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santini `350, in view of Santini (US Patent Number 6130809).

8. Regarding claim 1, Santini `350 disclose:

A magnetic write head, having an air bearing surface, comprising:

Upper and lower magnetic poles each having a first surface (figure 17, items 216 and 92), said first surfaces being parallel and non-opposing (See figure 17);

Extending for an amount in a direction normal to said first surfaces, one pedestal from each pole (figure 17, items 202 & 214), said pedestals having second surfaces that are coplanar, parallel to, and opposed to, said first surfaces (see figure 17);

Said pedestals being separated from one another by a non-magnetic layer whereby a write gap is defined (figure 17, item 228);

Upper pedestal extending away from said write gap for a distance whereby most of said pole is set back some distance from said air bearing surface and therefore has little magnetic interaction therewith (figure 17, item P2).

Santini fails to disclose:

Said pedestals having a common width that defines a track width;

Each pedestal extending away from said write gap for a distance whereby most of said pole is set back some distance from said air bearing surface and therefore has little magnetic interaction therewith.

Said pedestals having a common width that defines a track width (page 1, paragraph 6);

Santini `809 disclose:

Lower pedestal extending away from said write gap for a distance whereby most of said pole is set back some distance from said air bearing surface and therefore has little magnetic interaction therewith (front figure, items 230 & 226).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to set the rest of the pole back form the front component so that the front part (258) can be planarized with the insulation layers in order to provide a photoresist frame on a flat surface, for the purpose of the notched configuration is to slightly increase side writing between the pole pieces which has the effect of writing a guard band of noise on each side of the written track so that when the track is read by the read head a slight misregistration will not cause the read head to read data on an adjacent track.

9. Regarding claims 3, Santini `350, in view of Santini `809 disclose:

The write head described in claim 1 wherein said amount that said pedestals extend away from said poles is between about 0.1 and 1 micron (see figure 18).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have created, in the course of routine engineering optimization/experimentation, pedestals, which extend from the poles in the range given by claim 3. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claim 3 are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934,

1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

10. Regarding claim 6, Santini `350 disclose:

> The write head described in claim 4 wherein said non-magnetic layer is silicon oxide, aluminum oxide, tantalum oxide, Al, Rh, Ru, Cu, NiCu, or Ta (page 5, paragraph 56).

11. Regarding claim 10, Santini `350, in view of Santini `809 disclose:

> The write head described in claim 4 wherein said amount that said ledge extends away from said primary lower pole is between about 0.1 and 1 microns (See figure 18).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured, in the course of routine engineering optimization/experimentation, the ledge to have extended from the primary lower pole by the distance given in claim 10. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claim 10 are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular

range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

12. Claims 2, 5, 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santini `350, in view of Santini `809, in further view of Sasaki (US Publication Number 2003/0151849).

13. Regarding claim 2, Santini `350, in view of Santini `809 fails to disclose:

> The write head described in claim 1 wherein said track width is between about 0.05 and 1 micron.

Sasaki et al disclose:

> The write head described in claim 1 wherein said track width is between about 0.05 and 1 micron (page 11, paragraph 136 implies track width of .2 microns).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to create a write head of this width, as this small width is small enough to allows very dense information storage on the disc, however, is large enough where a relatively large magnetic flux can be generated.

14. Regarding claim 5, Santini `350, in view of Santini `809 fails to disclose:

The write head described in claim 4 wherein said first layer of high magnetic permeability material is NiFe, CoNiFe, FeTaN, FeAIN, CoTaN, CoAIN, or CoFeN and has a thickness between about 0.3 and 3 microns.

Sasaki et al disclose:

The write head described in claim 4 wherein said first layer of high magnetic permeability material is NiFe, CoNiFe, FeTaN, FeAIN, CoTaN, CoAIN, or CoFeN and has a thickness between about 0.3 and 3 microns (page 9, paragraph 124).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricating the pedestal from this material with this thickness, because this thickness helps to increase the magnetic flux density, but these materials have a relatively low saturation level, therefore, the magnetic flux density is under more strict control for accurately recording data.

15. Regarding claim 7, Santini `350, in view of Santini `809 fails to disclose:

The write head described in claim 4 wherein said second layer of high magnetic permeability material is NiFe, CoNiFe, FeTaN, FeAIN, CoTaN, CoAIN, or CoFeN and has a thickness between about 0.2 and 2 microns.

Sasaki et al disclose:

The write head described in claim 4 wherein said second layer of high magnetic permeability material (paragraph 125, item 42) is NiFe, CoNiFe, FeTaN, FeAIN, CoTaN, CoAIN, or CoFeN and has a thickness between about 0.2 and 2 microns (page 9, paragraph 125).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricate the second layer to a general thickness relatively near that of the first layer, because this will provide for better interaction between the two layers which allows for a more accurate and precise control of the magnetic flux density.

16. Regarding claim 8, Santini `350, in view of Santini `809 fails to disclose:

The write head described in claim 4 wherein said upper magnetic pole is NiFe, CoNiFe, FeTaN, FeAIN, CoTaN, CoAIN, or CoFeN and has a thickness between about 0.3 and 3 microns.

Sasaki et al disclose:

The write head described in claim 4 wherein said upper magnetic pole is NiFe, CoNiFe, FeTaN, FeAIN, CoTaN, CoAIN, or CoFeN and has a thickness between about 0.3 and 3 microns (page 11, paragraph 136).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricating the pedestal from this material with this thickness, because this thickness helps to increase the magnetic flux density, but these materials have a relatively low saturation level, therefore, the magnetic flux density is under more strict control for accurately recording data.

17. Regarding claim 9, Santini `350, in view of Santini `809 fails to disclose:

The write head described in claim 4 wherein said width is between about 0.05 and 1 micron.

Sasaki et al disclose:

The write head described in claim 1 wherein said track width is between about 0.05 and 1 micron (page 11, paragraph 136 implies width of .2 microns).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to create a write head of this width, as this small width is small enough to allows very dense information storage on the disc, however, is large enough where a relatively large magnetic flux can be generated.

Claim Objections

18. The following is a quotation of 37 CFR 1.71(a)-(c):

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

(C) In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

19. The specification is objected to under 37 CFR 1.71 because the subject matter of Claims 2,3,5 and 7-10 are not fully disclosed.

For example:

The dimensions of the "pedestal thickness, pedestal extension from poles, ledge extension from lower pole, track width, head width, or top and bottom pole thickness" are not specifically and succinctly described in the specification ... although these terms/phrases appear in numerous part of the specification, they are not combined and organized therein to allow one of ordinary skill in the art to ascertain exactly the dimensions of the product being manufactured by applicant of the claimed product; i.e. the skilled artisan would not know how to pick-and-choose through all of the dimensions of the parts of the specification to identify how to practice the claimed invention.

Claim Rejections - 35 USC § 112

20. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

21. Claims 2,3,5 and 7-10 are rejected under 35 U.S.C. §112, first paragraph, as directed to subject matter which was not described in the specification in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention. See previous paragraph.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Greco Kayrish 3/27/2006

MK

3/31/2006

A. J. HEINZ
PRIMARY EXAMINER
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